

REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Objection to Specification

The specification has been amended to delete the portion of claim 1 included on page 16, as required in item 1 on page 2 of the Official Action.

2. Rejection of Claims 1 and 2 Under 35 USC §102(a) in view of U.S. Patent No. 5,995,220 (Suzuki)

This rejection is respectfully traversed on the grounds that the Suzuki patent fails to disclose or suggest the claimed combination of:

- a prism that splits light from a package into two different optical paths to obtain stereoscopic images, and
- a single video camera for capturing the images by mapping a single spatial image point of the package onto two points of the camera's image plane (as described in lines 3-9 on page 8 of the original specification).

Instead, the Suzuki patent discloses a semiconductor package inspection apparatus that uses an illumination system that supplies light with **multiple wavelengths**, and a **dichroic** prism that transmits the different wavelengths to different imaging arrays 8-10 located in **different image planes** within the camera 5.

A prism that splits an image into two optical paths to obtain a stereoscopic image is known as a "bi-prism." The purpose of the present invention is to use such a bi-prism to obtain a stereoscopic effect, so as to provide improved inspection capabilities, with only a single camera. This solves a problem of conventional dual-camera stereoscopic systems in that it is very difficult in the conventional systems to calibrate dual camera systems having different camera positions and orientations. Since a single camera is used by the claimed invention, calibration is simplified even though the system captures *stereoscopic* images.

The Suzuki patent, on the other hand, is not concerned with obtaining stereoscopic images, but rather with achieving optimal lighting and with separating different images initially transmitted along a common optical path. Mapping the separated images onto a single image plane would actually be *contrary* to the basic teachings of the Suzuki patent. There is therefore clearly no teaching or suggestion in the Suzuki patent of obtaining stereoscopic images, as claimed much less of using a bi-prism rather than a dichroic prism for that purpose, or a single camera and image plane. Accordingly, withdrawal of the rejection of claims 1 and 2 under 35 USC §102(a) is respectfully requested.

3. Rejection of Claims 3 and 4 Under 35 USC §103(a) in view of U.S. Patent Nos. 5,995,220 (Suzuki) and 6,177,954 (Bouvier)

This rejection is respectfully traversed on the grounds that the Bouvier patent, like the Suzuki patent, fails to disclose or suggest the claimed combination of a prism that splits light from a package into two different optical paths to obtain stereoscopic images, and mapping of the stereoscopic images onto the image plane of a single camera.

Instead, the Bouvier patent is directed to an inspection system that uses a “**penta-prism**” to collect relatively diffuse light and direct it to a camera in a compact manner. The penta-prism of Bouvier has the same light directing function as, and may be substituted for, a pair of flat mirrors “*or other combinations of angles which has the effect of redirecting the optical axis of the camera at approximately a right angle for viewing the surface 12 to be inspected*” (col. 4, lines 1-7 of the Bouvier patent). This light-directing effect has nothing to do with the claimed splitting of images, and does not suggest modification of Suzuki dichroic image splitter to create a stereoscopic image in the manner of the claimed invention.

Because neither the Suzuki patent nor the Bouvier patent, whether considered individually or in any reasonable combination, discloses or suggests a single camera (and image plane) for capturing a stereoscopic image following splitting of the image by a prism, as claimed, withdrawal of the rejection of claims 3 and 4 under 35 USC §103(a) is respectfully requested.

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Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,

BACON & THOMAS, PLLC

A handwritten signature in black ink, appearing to read 'B E Urcia', with a long horizontal flourish extending to the right.

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Date: January 18, 2005

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